

Express Mail No. EV 380 863 703 US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of: Amin et al.

Confirmation No.: 3101

Serial No.: 09/839,991

Art Unit: 2815

Filed: April 20, 2001

Examiner: Jerome Jackson Jr.

For: QUANTUM BIT WITH A  
MULTI-TERMINAL JUNCTION  
AND LOOP WITH A PHASE  
SHIFT

Attorney Docket No.: 11090-034-999  
(formerly M-8915-  
1C US)

INFORMATION DISCLOSURE STATEMENT

Mail Stop AMENDMENT  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

RECEIVED  
AUG 10 2004  
TECH CENTER 2800

In accordance with the duty of disclosure provisions of 37 C.F.R. §1.56, there is hereby provided certain information which the Examiner may consider material to the examination of the subject U.S. patent application. It is requested that the Examiner make this information of record if it is deemed material to the examination of the application.

1. Enclosures accompanying this Information Disclosure Statement are:
  - 1a.  A list of all patents, publications, applications, or other information submitted for consideration by the office.
  - 1b. A legible copy of :
    - Each U.S. patent application publication and U.S. and foreign patent;
    - Each publication or that portion which caused it to be listed on the PTO-1449;
    - For each cited pending U.S. application, the application specification including the claims, and any drawing of the application, or portion of the application which caused it to be listed on the PTO-1449 including any claims directed to that portion;
    - all other information or portion which caused it to be listed on the PTO-1449.
  - 1c.  An English language copy of search report(s) from a counterpart foreign application or PCT International Search Report.
  - 1d.  Explanations of relevancy (ATTACHMENT 1(d), hereto) or English language abstracts of the non-English language publications.
2.  This Information Disclosure Statement is filed under 37 C.F.R. §1.97(b):
  - Within three months of the filing date of a national application other than a continued prosecution application under §1.53(d);
  - Within three months of the date of entry of the national stage as set forth in §1.491 in an international application;

- Before the mailing of the first Office action on the merits;
- Before the mailing of a first Office action after the filing of a request for continued examination under §1.114.

3.  This Information Disclosure Statement is filed under 37 C.F.R. §1.97(c) after the period specified in 37 C.F.R. §1.97(b), but before the mailing date of any of a final action under 37 C.F.R. §1.113, a notice of allowance under 37 C.F.R. §1.311 or an action that otherwise closes prosecution in the application.

*(Check either Item 3a or 3b)*

3a.  The Certification Statement in Item 5 below is applicable. Accordingly, no fee is required.

3b.  The \$180.00 fee set forth in 37 C.F.R. §1.17(p) in accordance with 37 C.F.R. §1.97(c) is:  
 enclosed  
 to be charged to Jones Day Deposit Account No. 50-3013, referencing Docket No. 706700-999112. A duplicate of this Statement is enclosed.

*(Item 3b to be checked if any reference known for more than 3 months)*

4.  This Information Disclosure Statement is filed under 37 C.F.R. §1.97(d) after the period specified in 37 C.F.R. §1.97(c), but on or before the date of payment of the issue fee.

The Certification Statement in Item 5 below is applicable.

The \$180.00 fee set forth in 37 C.F.R. §1.17(p) is:

- enclosed.
- to be charged to Jones Day Deposit Account No. 50-3013

5.  Certification Statement (applicable if Item 3a or Item 4 is checked)

*(Check either Item 5a or 5b)*

5a.  In accordance with 37 C.F.R. §1.97(e)(1), it is certified that each item of information contained in this Information Disclosure Statement was first cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement.

5b.  Each item of information contained in this information disclosure statement was cited in a communication from a foreign patent office in a counterpart application, and the communication was not received by any individual designated in 37 C.F.R. §1.56(c) more than thirty days prior to the filing of this information disclosure statement.

5c.  Pursuant to 37 C.F.R. §1.704(d), each item of information contained in this information disclosure statement was cited in a communication from a foreign patent office in a counterpart application, and the communication was not received by any individual designated in 37 C.F.R. §1.56(c) more than thirty days prior to the filing of this information disclosure statement.

6.  This application is a continuation application under 37 C.F.R. §1.60 or §1.53(b) or (d).

*(Check appropriate Items 6a, 6b and/or 6c)*

6a.  A Petition to Withdraw from issue under 37 C.F.R. §1.313(b)(5) is concurrently filed herewith.

6b.  Copies of publications listed on Form PTO-1449 from prior application Serial No. , filed on , of which this application claims priority under 35 U.S.C. §120, are not being submitted pursuant to 37 C.F.R. §1.98(d).

6c.  Copies of the publications listed on Form PTO-1449 were not previously cited in prior application Serial No. , filed on , and are provided herewith.

7.  This is a Supplemental Information Disclosure Statement. (Check Item 7a)

7a.  This Supplemental Information Disclosure Statement under 37 C.F.R. §1.97(f) supplements the Information Disclosure Statement filed on . A bona fide attempt was made to comply with 37 C.F.R. §1.98, but inadvertent omissions were made. These omissions have been corrected herein. Accordingly, additional time is requested so that this Supplemental Information Disclosure Statement can be considered as if properly filed on .

8.  In accordance with 37 C.F.R. §1.98, a concise explanation of what is presently understood to be the relevance of each non-English language publication is:  
*(Check Item 8a, 8b, or 8c)*

8a.  satisfied because all non-English language publications were cited on the enclosed English language copy of the PCT International Search Report or the search report from a counterpart foreign application indicating the degree of relevance found by the foreign office.

8b.  set forth in the application.

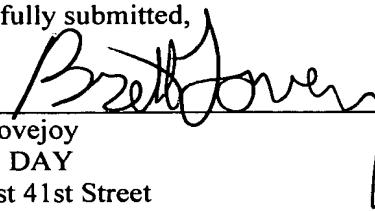
8c.  enclosed as an attachment hereto.

9.  The Commissioner is authorized to charge any additional fee required or credit any overpayment for this Information Disclosure Statement and/or Petition to Jones Day Deposit Account No. 50-3013, referencing Docket No. 706700-999112.

10.  No admission is made that the information cited in this Statement is, or is considered to be, material to patentability nor a representation that a search has been made (other than a search report of a foreign counterpart application or PCT International Search Report if submitted herewith). 37 C.F.R. §§1.97(g) and (h).

Respectfully submitted,

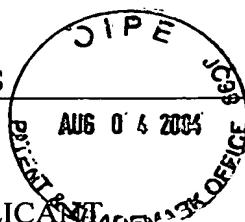
Date: August 4, 2004

  
Brett Lovejoy  
JONES DAY  
222 East 41st Street  
New York, New York 10017  
(415) 875-5744

42,813

(Reg. No.)

EXPRESS MAIL NO. EV 380 863 703 US

LIST OF REFERENCES CITED BY APPLICANT  
(Use several sheets if necessary)

ATTY DOCKET NO. 11090-034-999 APPLICATION NO 09/839,991

APPLICANT Amin et al.

FILING DATE April 20, 2001

GROUP 2815

## U.S. PATENT DOCUMENTS

| *EXAMINER INITIAL |  | DOCUMENT NUMBER | DATE | NAME | CLASS | SUBCLASS | FILING DATE IF APPROPRIATE |
|-------------------|--|-----------------|------|------|-------|----------|----------------------------|
|                   |  |                 |      |      |       |          |                            |
|                   |  |                 |      |      |       |          |                            |
|                   |  |                 |      |      |       |          |                            |
|                   |  |                 |      |      |       |          |                            |
|                   |  |                 |      |      |       |          |                            |
|                   |  |                 |      |      |       |          |                            |
|                   |  |                 |      |      |       |          |                            |
|                   |  |                 |      |      |       |          |                            |
|                   |  |                 |      |      |       |          |                            |

## FOREIGN PATENT DOCUMENTS

|  |  | DOCUMENT NUMBER | DATE | COUNTRY | CLASS | SUBCLASS | TRANSLATION | YES | NO |
|--|--|-----------------|------|---------|-------|----------|-------------|-----|----|
|  |  |                 |      |         |       |          |             |     |    |
|  |  |                 |      |         |       |          |             |     |    |
|  |  |                 |      |         |       |          |             |     |    |
|  |  |                 |      |         |       |          |             |     |    |
|  |  |                 |      |         |       |          |             |     |    |
|  |  |                 |      |         |       |          |             |     |    |

## OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)

|    |   |
|----|---|
| BR | International Search Report for PCT/CA 02/00532   |
| BS | Blais <i>et al.</i> , "Operation of universal gates in a solid-state quantum computer based on clean Josephson junctions between <i>d</i> -wave superconductors," Physical Review A, April, 2000, Vol. 61, 042308: 1-4                                |
| BT | Blatter <i>et al.</i> , "Quantum computing with superconducting phase qubits," Physica C, April 2001, Vol. 352, pp. 105-109   |
| BU | Jonker <i>et al.</i> , "On Quantum & Classical Computing with Arrays of Superconducting Persistent Current Qubits," IEEE, Proceedings of Fifth IEEE International Workshop on Computer Architectures for Machine Perception, September 2000, pp 69-78 |
| BV | Makhlin <i>et al.</i> , "Nano-Electronic Circuits as Quantum Bits," 2000 IEEE International Symposium on Circuits and Systems - Emerging Technologies for the 21 <sup>st</sup> Century, May 2000, pp. 241-244   |
| BW | Vleeming <i>et al.</i> , "Measurements of the flux, embraced by the ring of a four-terminal SQUID, as a function of the external magnetic flux and the applied transport current," Physica B, April 1999, Vol. 262, pp. 296-305                       |

| EXAMINER | DATE CONSIDERED |
|----------|-----------------|
|          |                 |

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.